

Opinions of patients related to radiology department during the COVID-19 pandemic

Patients' opinions on COVID-19

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Abstract

Aim: Patients experience tension due to the measures that should be taken against the COVID-19 pandemic in radiology departments. The objective of this study was to measure the opinions of patients related to the radiology department during the pandemic.

Material and Methods: The survey developed by the researcher in line with the current literature was applied to measure the satisfaction of patients in the radiology department. The survey consisted of 26 questions, the first six of which involved demographic characteristics. The survey was conducted with a face-to-face interview method.

Results: The study included 300 patients referred to the radiology department due to any reason and who were voluntarily participated. The responders answered the questions that "Did you get information about your radiology examination before your appointment?" as "no" by 78%, "Did you have any questions to radiology department staff after your examinations?" as "yes" by 26% and "Did the staff of the radiology department and/or the radiologist take the time to answer your questions?" as "no" by 60.4%. The overall rate of satisfaction with the services delivered in the radiology department was found as 95%.

Discussion: Our survey shows that as high as 95% of the patients who were referred to the radiology department for imaging for any reason were satisfied with the radiology department during the pandemic. Such satisfaction surveys in departments such as radiology, where patients have limited access to staff, especially radiologists, provide valuable feedback to clinicians and other healthcare providers.

Keywords

COVID-19; Measures; Radiology; Survey; Satisfaction

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Introduction

The coronavirus-2019 (COVID-19) disease, declared as a pandemic by the World Health Organization on April 12, 2020, continues to spread and cause deaths all over the world still today. A definitive treatment of the disease has not yet been developed, and studies to find drugs and vaccines are still ongoing. As of 20.10.2020, a total of 364,000 cases were reported in Turkey, and 316,000 of them recovered, while 9,874 died. As of the same date, it was reported that there were a total of 43.4 million cases worldwide, 29.1 million of them recovered and 1.16 million died (available at: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>). On the other hand, the workload of both hospitals and healthcare personnel has reached its maximum level in this course.

COVID-19 patients or those with suspicion of the illness first apply to the emergency services, laboratory tests are performed and they are referred to the radiology department for imaging tests. Considering the workload of emergency services and radiology departments even before the pandemic, it is obvious that both patients and healthcare professionals are negatively affected by the COVID-19 process in terms of heavy workload. However, this situation causes more concern for patients who go to the hospital due to dissimilar complaints. These patients are afraid of getting COVID-19 disease and experience tension due to situations such as violation of social distance, close contact and lack of hygiene that may occur in the hospital [1, 2]. This situation may affect the satisfaction level of the patients both with the hospital environment and hospital staff.

Today, measurement of patient satisfaction is important not only for determining whether patients are satisfied with the service provided, but also for health institutions to evaluate their own performance [3]. The patient's satisfaction is affected by factors such as the hospital's suitability, reliability, physical equipment, hygiene of the environment, interest, respect, behavior and communication of the employees [3]. As the perception of the quality of the service received positively increases, the level of the patient satisfaction increases, and this increase is positively affected [4]. According to previous studies, patients expect correct diagnosis procedures, accurate treatment, knowledgeable, qualified and skilled health professionals, clean environment, respectful, attentive, friendly and timely service from the hospital [5]. Moreover, in another study, the situation that patients are most satisfied with is the opportunity to directly talk to the doctor during the examination. The most common complaint of the patients was reported as the long waiting time for the examination [6].

It should not be forgotten that the presentation style of health services can only be shaped by the opinions of the patients and their relatives who are the service recipients. Therefore, the aim of our study is to determine the satisfaction levels of the patients referred to the radiology department of our hospital for imaging tests with any indication during the COVID-19 pandemic.

Material and Methods

This study was conducted in a single center with a total of 300 volunteers who were referred to the radiology clinic of our hospital for imaging tests between 01.07.2020 and

01.08.2020 for any reason and agreed to participate in the study. Participants consisted of inpatient or outpatient patients aged 18 years and over, able to communicate, conscious and voluntarily accepted to answer the questionnaire.

To find the sample size of the research, the following assumptions were made: population size 1000, 95% confidence interval (CI), 50% satisfaction rate and 80% working power. Accordingly, the sample size was determined as 278, and the study group was composed of 300 people, considering the margin of error, missing forms, etc. On average, 12 people were interviewed daily.

Before starting the study, approval was obtained from the local ethics committee of our hospital (Date: 01.07.2020; Number: (2017-KAEK-120) / 2 / 2020.G-064, Decision number: 2 / 2020.K-049). The objectives of the study were explained in detail to all patients who agreed to participate in the study, and written consent was obtained from all participants. The study was conducted in line with the ethical principles of the Declaration of Helsinki.

Questionnaire

The questionnaire used in the study was prepared by the researchers by scanning the relevant literature [7] and consists of a total of 26 questions. The first 6 questions of the questionnaire consist of questions on social demographic characteristics (age, gender, marital status, educational status and income status), and the remaining 20 questions are designed in a way that the participants express their views and opinions about the radiology department. Before starting the survey, the questions were structured according to the results obtained from a pre-test study with 10 volunteers. The questionnaire forms were filled in with the participants in a quiet room using the face-to-face interview technique by the researcher. It took approximately 20 minutes to complete each questionnaire. Survey questions are given below. While analyzing the answers to the questions, categorical data were expressed as numbers and percentages.

Results

Our study was conducted with 300 participants who applied to the emergency service of our hospital between 01.07.2020 and 01.08.2020 and were referred to the radiology department for imaging tests. The first six questions of the questionnaire consist of the social demographic data of the participants. Social demographic data of the participants such as age, gender, marital status, educational status and income levels are given in Table 1.

When Table 1 is examined, it is seen that 173 of the 300 participants are women, 125 participants are in the 41-50 age group, 165 participants are high school graduates and 156 participants have a medium income.

We found that 135 participants referred to the radiology clinic were referred for X-ray, 75 for Computed Tomography (CT), 42 for Ultrasonography (USG), 35 for Magnetic Resonance Imaging (MRI), and 13 for Mammography (Figure 1).

The responses of the 300 participants included in the study to the survey questions are given in Table 2.

Only 6 of the 300 participants included in the study reported that the service they received from the radiology department



Figure 1. Distribution of examinations requested from the participants

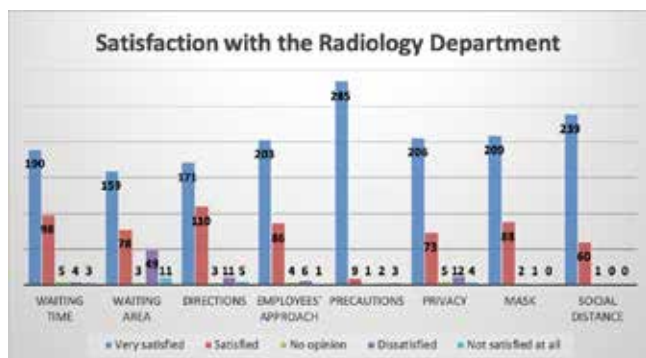


Figure 2. Distribution of the satisfaction level of the participants



Figure 3. General distribution of the satisfaction level of the participants with the radiology department

Table 1. Social demographic data of the participants

Feature	Subgroup	n	%
Gender	Male	127	42.3
	Female	173	57.7
Age Group	18-30	45	15.0
	31-40	97	32.3
	41-50	125	41.7
	>50	33	11.0
Marital Status	Married	139	46.3
	Single	161	53.7
Educational Status	Primary school	17	5.7
	Middle School	68	22.7
	High school	165	55.0
	University	50	16.7
Income Level (TL)	0-2500	39	13.0
	2500-5000	156	52.0
	>5000	105	35.0

was bad. The distribution of the satisfaction data of the participants is given in Figure 2. It was found that 95% of all participants were satisfied with the service they received from the radiology department (Figure 3).

Table 2. Opinions and thoughts of the participants about the radiology department

	n	%
What type of radiological examination is requested from you today?		
X-ray	135	45
CT	75	25
MRI	45	15
USG	42	14
Mammography	3	1
Did you get information about your radiology examination before your appointment?		
Yes	67	22
No	233	78
Have your X-ray / other scans been done on time?		
Yes	193	64,3
No	107	35,7
Have you been given any explanation as a result of your X-ray / other scans?		
Yes	205	68,3
No	95	31,7
After your examinations, did you have any questions to radiology department staff and /or the radiology specialist about the process?		
Yes	78	26
No	222	74
Did the staff of the radiology department and /or the radiologist take the time to answer your questions?		
Yes	119	39,6
No	181	60,4
Have you been given clear information about when and how you will receive test results in the radiology department?		
Yes	235	78,3
No	65	21,7
How satisfied are you with the waiting period for your examination in the radiology department?		
I am very satisfied	190	63,3
I am satisfied	98	36,6
No idea	5	1,7
I am not satisfied	4	1,3
I'm never satisfied	3	1
How satisfied were you with the directions (staff, direction signs etc.) to find the radiology department?		
I am very satisfied	171	57
I am satisfied	110	36,7
No idea	3	1
I am not satisfied	11	3,6
I'm never satisfied	5	1,7
How satisfied are you with the approach of the staff in the radiology department?		
I am very satisfied	203	67,6
I am satisfied	86	28,6
No idea	4	1,3
I am not satisfied	6	2
I'm never satisfied	1	0,3
How did you find the precautions taken by the employees in the radiology department against the risk of contamination?		
I am very satisfied	285	95
I am satisfied	9	3
No idea	1	0,3
I am not satisfied	2	0,6
I'm never satisfied	3	1

How satisfied are you with the disinfection of the device by the staff of the radiology department after the patient before you?		
I am very satisfied	281	93,6
I am satisfied	14	4,6
No idea	1	0,3
I am not satisfied	2	0,6
I'm never satisfied	2	0,6
How satisfied are you with the waiting area (cleanliness, comfort, general impression, noise, etc.) in the radiology department?		
I am very satisfied	159	53
I am satisfied	78	26
No idea	3	1
I am not satisfied	49	3
I'm never satisfied	11	3,6
Are you satisfied that your privacy was taken seriously during the examinations?		
I am very satisfied	206	68,6
I am satisfied	73	24,3
No idea	5	1,7
I am not satisfied	12	4
I'm never satisfied	4	1,3
Are you satisfied that you were given a mask during the examinations?		
I am very satisfied	209	69,6
I am satisfied	88	29,3
No idea	2	0,6
I am not satisfied	1	0,3
I'm never satisfied	0	0
Are you satisfied that the social distance rules are given importance during the examinations?		
I am very satisfied	239	79,7
I am satisfied	60	20
No idea	1	0,3
I am not satisfied	0	0
I'm never satisfied	0	0
Are you pleased that you and your doctor are informed immediately and your treatment is not delayed when there are signs of illness during the tests?		
I am very satisfied	126	42
I am satisfied	152	50,6
No idea	17	5,6
I am not satisfied	2	0,6
I'm never satisfied	3	1
When an illness occurs during the examinations and additional examinations are required, were you satisfied that the procedure was carried out before you left the area?		
I am very satisfied	201	67
I am satisfied	89	29,6
No idea	5	1,7
I am not satisfied	3	1
I'm never satisfied	2	0,6
If you have time constraints during the examinations, are you pleased to receive the results by e-mail?		
I am very satisfied	167	55,6
I am satisfied	133	44,4
No idea	0	0
I am not satisfied	0	0
I'm never satisfied	0	0
What is your general impression of the service offered in the radiology department?		
Excellent	37	12,3
Good	192	64
Normal	65	21,6
Bad	6	2

Discussion

Radiology, which is an important and indispensable part of modern medicine, also constitutes a large part of healthcare costs [8]. However, in the field of medicine, developing technology affects the field of radiology the most. The lack of radiologists leads to an ever-increasing workload, their intense and uninterrupted work, and almost no visibility by patients. This can affect the satisfaction of the patient. Patient satisfaction is defined as a subjective concept related to the degree to which health care services respond to patient expectations. Patient satisfaction is one of the most important factors that show the quality of health care [9]. In this context, customer satisfaction reflects the gap between the expected and perceived characteristics of the service [10]. In addition, positive patient experience has been shown to be associated with better health outcomes, treatment compliance, and low resource use [11, 12].

In our study, we aimed to measure the satisfaction of patients who were referred to the radiology department of our hospital for imaging tests during the COVID-19 pandemic. The findings of our study show that 95% of the patients are satisfied with the radiology services they receive. In a study conducted in Ghana, the satisfaction of the patients from the radiology department was reported as 97% [13].

In a similar study conducted by Wahed et al. with 300 participants, it was reported that 75% of the patients were satisfied with the radiology department [14]. In another similar study conducted in Nigeria, a survey was conducted with a total of 300 participants, including 145 public hospitals and 155 private hospitals, and it was reported that the participants were generally satisfied (73.4%) with the radiology department. In the same study, it was concluded that individuals who participated in the survey study in a private hospital were more satisfied than those who participated in the study in a state hospital [13]. In the study conducted in the Philippines [15], the patient satisfaction rate was reported as 71%, and in the study conducted in Pakistan [16], as 71.2%. It is expected that different studies will have different results because the environmental conditions of each center where the study is conducted and the understanding of patient relations of the employees may be different.

Unlike previously reported studies in the literature, we conducted our study during the COVID-19 pandemic. During the pandemic period, both inpatient and outpatient traffic increased significantly in radiology departments. The COVID-19 disease poses great challenges for the maintenance of radiology services and for the protection of both healthcare professionals and non-infected individuals. In our center, all cases in the radiology department use protective masks and the personnel serve with protective equipment. Social distance rules are applied and staff and subjects avoid close contact as much as possible. It is seen that the participants are satisfied with the measures taken in the radiology department during the COVID-19 pandemic. However, this situation causes the patients to have less contact with radiology professionals. Considering all these, 237 of the 300 participants (79%) reported that they were satisfied with the waiting area in the radiology department, while 60 participants (20%) reported that they

were not satisfied. Disinfecting both staff and devices after each procedure in the radiology department, which is intense due to the COVID-19 epidemic, can extend the waiting times. When we asked the patients if they were given any explanation after the examinations, 119 participants (40%) answered yes, while 181 (60%) answered no or partially. When we asked the participants if they had any questions to the radiology staff, 78 participants answered yes and 222 participants answered no. Among the 78 participants who answered the question "Did the radiology department staff and/or radiologist take time to answer your questions?" Among the 78 participants 40% said "yes", and 60% answered "no". In previous studies, it was reported that patients were not satisfied due to the waiting times and lack of communication between the doctor and the patient [3-5, 7, 14]. At the beginning of the COVID-19 pandemic, all of our department employees received training on measures to be taken. Measures have been maximized to protect both the staff and the patients. This is a factor that may have contributed to the high satisfaction rate of patients with the approach of our employees. However, it should not be forgotten that both employees and individuals are going through a very sensitive period.

Limitations of the Study

This study has some limitations. First of all, the study was run in a single center and was carried out only under the conditions of the center where the study was conducted. In addition, the results of the questionnaire applied in the study could be refracted according to demographic data. For example, satisfaction rates could be compared according to education level, age range, income level. The patients could be grouped as inpatients and outpatients. However, the emphasis on the COVID-19 pandemic in our study and the fact that the survey reflects the patient experience in this susceptible period increases the strength of the study.

Conclusion

In our study, it was found that as high as 95% of the patients who were referred to the radiology department for imaging for any reason were satisfied with the radiology department, the services provided here, and the department staff. This result is quite satisfactory for our radiology department, whose patient traffic and workload have increased with the pandemic period. Continuous and improved carrying out of such satisfaction surveys in departments such as radiology, where patients have limited access to staff, especially radiologists, provides valuable feedback for clinicians and other healthcare providers. We believe that future multi-center, multi-participatory and comprehensive surveys and detailed analysis of the results in radiology departments, where the opinions of patients who are health customers less than other hospital departments, will make significant contributions to the development and continuous improvement of the healthcare system.

Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

Animal and human rights statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with

the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

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Conflict of interest

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